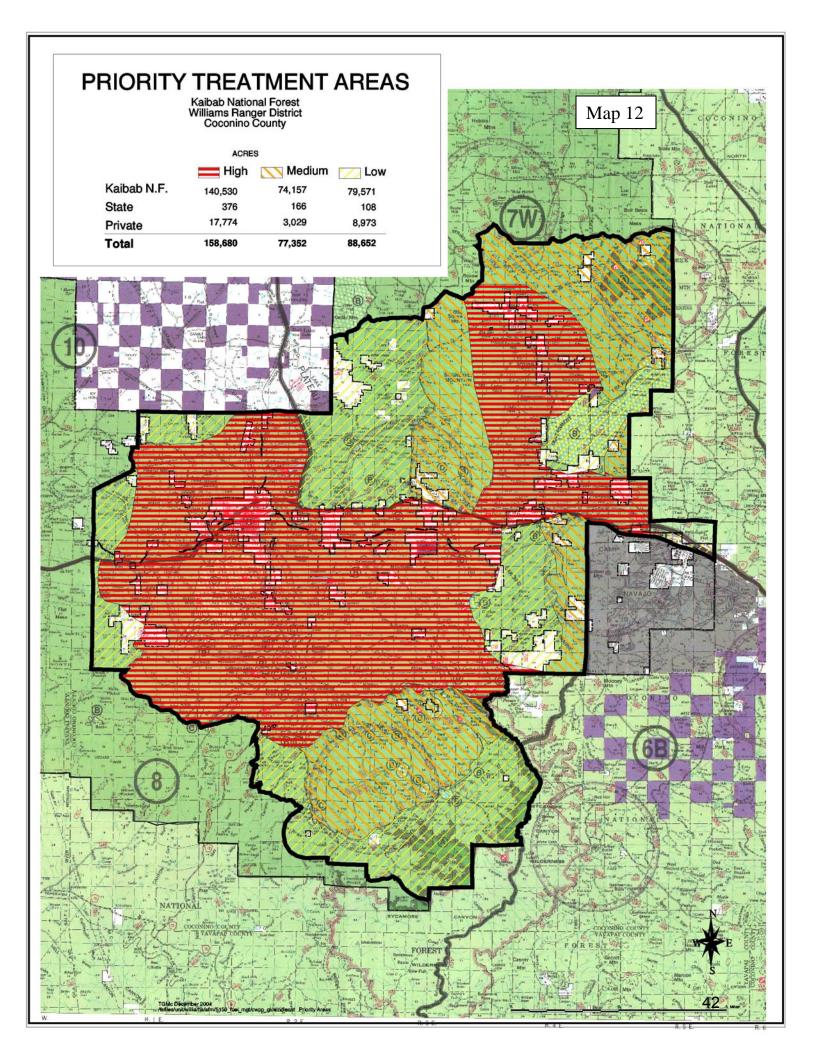
## C. Priority Treatment Area Identification

The priority treatment area map was developed using the dominant vegetation and the crown fire risk assessment in combination with developed private and federal lands. Emphasis was placed on the areas south and west of developments and Bill Williams Mountain to provide a 4-6 mile buffer for treatment. The high priority areas are around the City of Williams, highly developed lands south of I-40 to Parks, and from Parks north to cover this area of multiple homes and subdivisions. The medium priority areas are in the ponderosa pine and Douglas fir vegetation zones and add an additional buffer zone adjacent to the high priority areas. The low priority areas are generally the grasslands and the pinyon juniper areas within the WUI.

The majority of the fuels treatment work, by any agency, should be in the high priority areas; however some work should also be done in areas of medium and low priority depending upon funding and site specific planning. Extensive coordination is ongoing between the Kaibab National Forest and the Rural Communities Fuels Management Partnership to set priorities for fuels treatments along the boundaries of private and federal lands. This collaborative effort will further refine the priority treatment areas to gain priority funding to enhance and extend protection for all development within the WUI.

In the medium and high priority treatment areas, various combinations of treatments will likely be required and are highly recommended. The low priority treatment areas may only need broadcast burning to prevent crown fire initiation. While the CWPP identifies priority areas for fuels treatment, site specific planning must be accomplished by each jurisdictional agency to determine the appropriate level and means of treatments required. Again, the goal of the CWPP is to identify priority areas for fuel treatments that reduce the likelihood of catastrophic crown fires.



#### D. Fuels Treatment Cost Estimates

Within the greater Williams area WUI of 326,200 acres, it is estimated that approximately 250,000 acres will require some level of fuels treatment at a cost of over \$200 million. The costs are estimated using information from the Kaibab National Forest and other Northern Arizona CWPP plans. The costs are estimated averages and recognize that cutting hazard trees around homes, power lines, etc., is a very high risk undertaking and could cost \$2,000-\$3,000/acre or more for professional tree removal.

A cost estimate of \$30/acre is included for planning and monitoring. This is a Forest Service estimate for planning large area treatments, generally over 10,000 acres. It is recognized that planning, monitoring, and administration of work on private land and very small parcels of land is much more costly than this Forest Service estimate.

Not every acre within the WUI will require treatment. For purposes of the CWPP, it is estimated that 90% of high priority acres need treatment, 80% of medium priority, and only 50% of the low priority acres will require some level of fuels treatment.

High priority areas call for heavy thinning, piling, pile burning, and broadcast burning. Medium priority areas call for intermediate thinning, piling, pile burning, and broadcast burning. Low priority areas call light thinning and broadcast burning. Appendix 3 details the cost breakdown and estimates for implementing this plan.

A goal of the agencies involved in the CWPP is to treat all 250,000 acres over the next 10 years. This will require an annual budget of \$20,000,000 with most funding going to the Forest Service. Approximately \$1.9 million would be needed annually to treat private lands and approximately \$50,000 annually to treat state lands. This level of funding would result in an average of 25,000 acres of fuels treatment each year.

Again, implementation of treatments recommended in the CWPP, requires site-specific project planning by the jurisdictional agency. The CWPP offers a broad outline of treatment options available for use along with prioritized areas for fuels treatment that will produce the greatest benefit in protecting our communities.

#### E. Funding Sources

The purpose of the collaborative development of the greater Williams area CWPP is to demonstrate the risks associated to our communities spread throughout a fire prone environment. Implementation of the recommended actions and fuels treatment, beginning in the high priority areas, requires commitment and funding for all agencies and landowners involved. This plan, and implementation of the identified treatments, is intended to demonstrate our commitment and provides elected and governmental officials needed information to support this plan through adequate funding and assistance through grant monies.

As the biggest land steward in the WUI, approval of the greater Williams area CWPP will allow the Kaibab National Forest to compete with other forests for the anticipated increase in WUI funding through the Healthy Forests Restoration Act of 2003. On the state side, fire districts, the City of Williams, and Coconino County should individually or in partnership be competitive for grants from either the state or federal government. State fire assistance grants and Forest Land Enhancement Program funds are the most likely source of funding for fuels treatment on private lands, but agencies are encouraged to apply for Forest Service rural development grants and economic action programs.

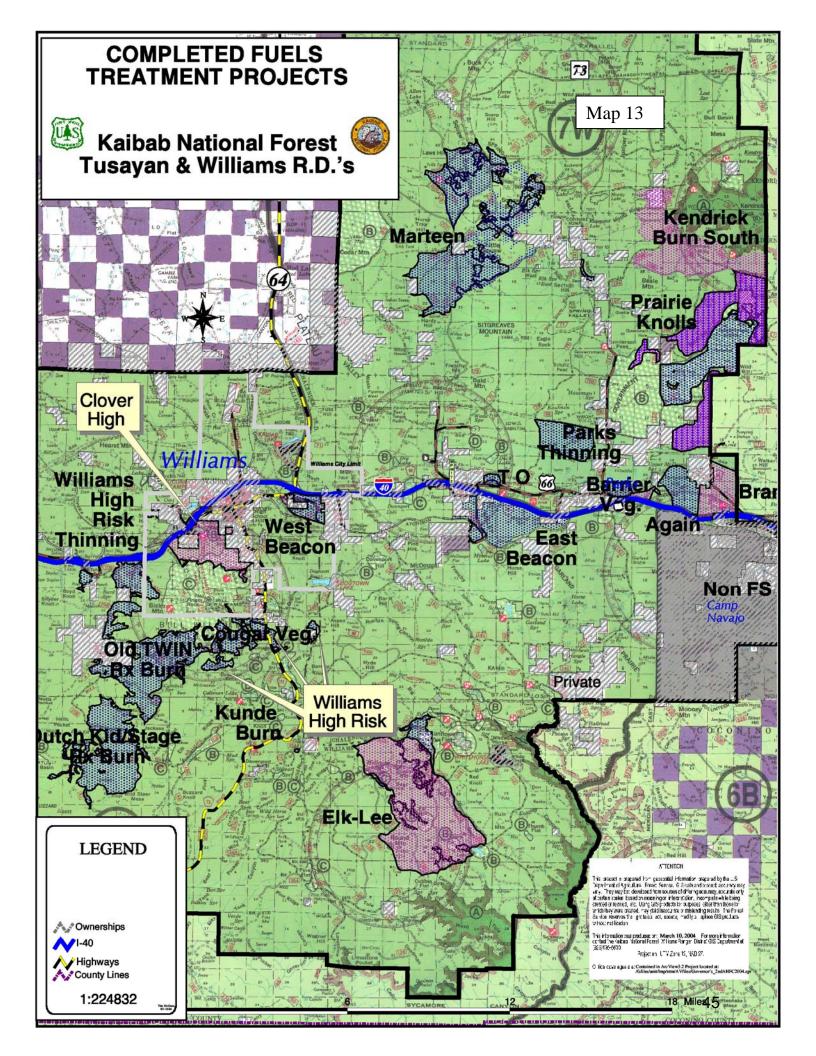
Coconino County has made some Title Ill funds available for the Coconino County Rural Environmental Corps (CREC) to do thinning work on private land. Title Ill legislation specifically authorizes these funds to be allowed as matching funds for federal grants, so they offer the opportunity for securing additional grant funds. CREC has already participated in grant preparation with the local partnership in the Parks/Williams area for 2005 grants using these funds as part of the match. (See Section G of the CWPP for more information on the Rural Communities Fuels Management Partnership).

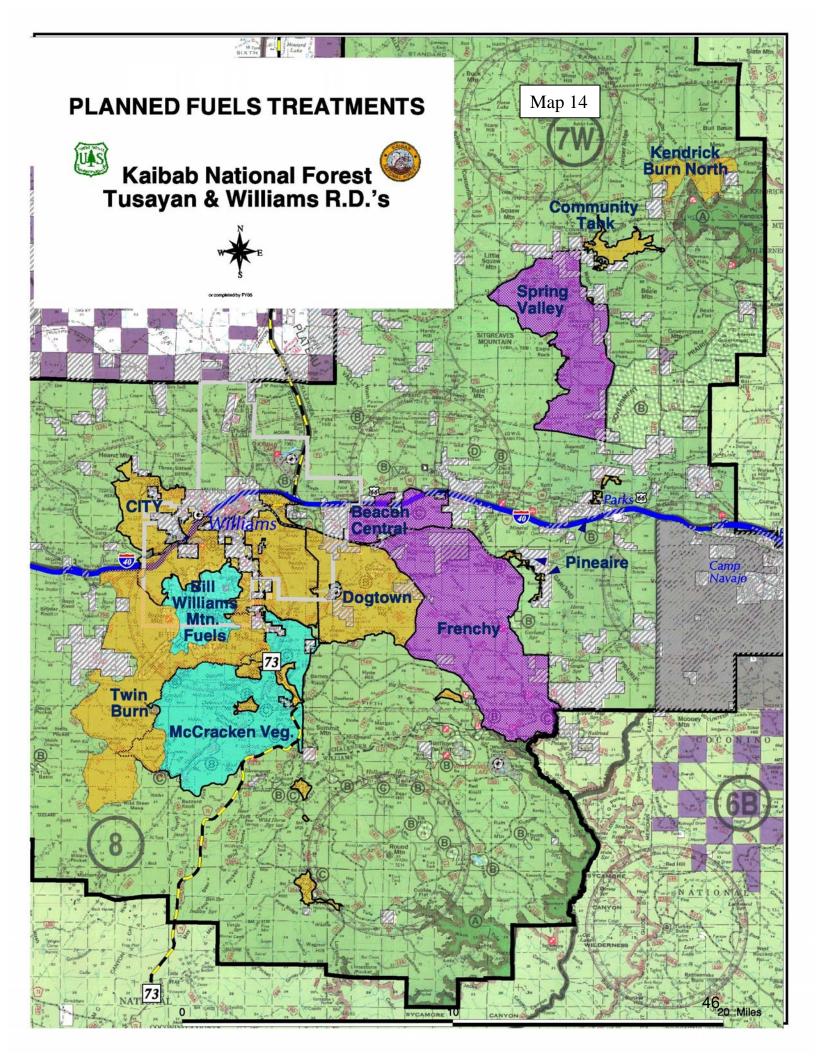
The greater Williams area agencies will individually and through the Rural Communities Fuels Management Partnership continue to support the development of business opportunities for wood and biomass utilization. Solid wood applications in which businesses are actively exploring or have already invested in Northern Arizona include; round wood construction, composite products like oriented strand board (OSB) and wood/plastic materials, and engineered lumber like glue-laminate beams and finger-jointed lumber. Biomass applications include wood chips for energy production, fuel pellets for heating, and biochemical extractives. Other products for which small diameter pine is currently being used in the region include firewood, posts and poles, landscaping timbers, ground covers and mulch, pallet manufacturing, and crafts.

The City of Williams, Coconino County, Arizona State Land Department, and the Kaibab National Forest will continue to explore opportunities for developing economic uses for wood products. The largest volume of wood needing removal is in the 9-16 inch size category. If businesses were formed that could pay for, remove and utilize all of this material, the forests would be greatly enhanced and commercial profits would easily pay for all the remaining fuel treatments of thinning and burning required in the wildland urban interface. Any commercial value that can be obtained from the huge volume of wood needing removal from our forested lands will assist in funding needed fuels treatments.

### F. Forest Service Completed and Planned Projects

The following two maps (Maps 13 and 14) display fuels treatment projects the Williams Ranger District has completed over the past several years and their planned future treatment areas. The majority of the completed and planned treatment areas are within the high priority area identified in this plan. Nearly two decades ago, the district began prioritizing projects around developed private lands and has worked steadily to complete fuels treatments in the wildland urban interface.





## G. Coconino County and Arizona State Land Department Projects

Within the greater Williams area, several agencies, departments, and universities work together to provide fuels treatment on private lands. These entities formed a partnership in 2001 that works under the umbrella of the Rural Communities Fuels Management Program (RCFMP). Participants in the RCFMP partnership include the Arizona State Land Department (ASLD), the Coconino County Rural Environmental Corps (CREC), the Kaibab National Forest, Coconino County Public Works and Environmental Conservation Corps, the City of Williams, Sherwood Forest Estates and Parks-Bellemont Fire Departments, the Arizona State Department of Corrections, Northern Arizona University Ecological Restoration Institute, and the University of Arizona.

The Rural Communities Fuels Management Partnership was established to not only facilitate fire risk reduction and improve forest health on private land through thinning, but also to complement similar work being planned or implemented on adjacent National Forest land.

The partners all play an important role in the success of the partnership, but on-the-ground project implementation has been primarily managed by ASLD. Securing and managing grants to fund the thinning efforts has been the role of the University of Arizona.

ASLD has authority to assist private property owners with forest health work on private property, currently called the Forest Land Enhancement Program (FLEP). The table on the following page displays what ASLD has accomplished in the CWPP area to date under the FLEP program. This program is expected to be maintained or even increased. With the development of the informal partnership (RCFMP), work accomplished on private land in the CWPP has greatly expanded.

Thinning work in the CWPP area has been completed by CREC, the Arizona Department of Corrections, and contract thinning crews. Since the partnership's inception, more than 250 acres have been treated with thinning. More properties are currently signed up for treatment than available funding can support.

The table on the following page shows the work accomplishment under the RCFMP umbrella from 2001 through 2004. Both SFA grant funds and Title III funds are available for more work in 2005.

Table 1. ASLD, CREC, and RCFMP Projects

	Acres	Acres	Acres Thinned	Acres Signed-
Location/Subdivision	Thinned	Thinned	CREC-Title	up
	Grant Funds	ASLD FLEP	III	But not thinned
Parks North	40			125
Sherwood Forest Parks	39			10
Ski Village	15			22
Peaceful Valley				85
Parks-Pines				4
Spring Valley	17			6
Pumpkin Center	27			
Spitz Springs Road				30
Parks South	10			
Sherwood Forest				
Estates	73			58
Williams North	10	52	5	3
Whispering Pines	2			
Williams South	5	12		28
Pine Meadows Estates	27			4
The Woods	3			7
Mountain Shadows				10
Total	268	64	5	392

Up to this time the RCFMP has limited their thinning work to private properties with ponderosa pine over story. Most of the partnership work to date occurred within the priority 1 area shown on Map 12. The total number of acres of private property within the priority 1 area is 17,774, of which approximately 337 acres are treated. To be most effective, the partnership should consider focusing future work on priority 1 lands identified in this plan.

### VIII. Structure Ignitability

Mitigation actions designed to reduce dangerous fuel accumulations within the greater Williams area are based, in part, on the "Guiding Principles for Forest Ecosystem Restoration and Community Protection" promulgated by Governor Janet Napolitano's Arizona Forest Health Advisory Council in March 2004. Two of these principles are:

- In fire prone areas, community officials must develop, adopt, and enforce comprehensive land use plans, zoning regulations, and building codes for community protection, forest restoration, ecosystem health requirements, and long term fire management. Zoning and land use have a major impact on fire management, and can make a significant contribution to restoring forest health and protecting communities.
- Forest ecosystem restoration requires effective community protection to establish and maintain a fire-resistive condition for structures, improvements, and vegetation.

Methods of accomplishing this condition are based on public safety needs, fire hazard, and local capability and creativity. A fire-resistive condition will be accomplished by removing and modifying forest fuels, establishing defensible space, and use of fire-resistant construction materials and architectural design.

Private property owners are encouraged through this CWPP to become educated on ways to protect their homes through firewise practices. The Firewise Communities organization is a national program that promotes the education of the public in ways to mitigate losses and provide an area around their homes (defensible space) where firefighters can safely work. This defensible space around structures provides at least 30 feet of cleared or fire resistant plant material as well as room for firefighting equipment. Treatment of the area further than 30 feet is very site dependent and can range out to several hundred feet of needed treatment. Firewise also advises people on fire resistant building materials, especially roofing. People are encouraged to visit <a href="www.firewise.org">www.firewise.org</a> for additional details on methods to protect themselves and their homes. Appendix 4 contains a few firewise tips for residents in the greater Williams area.

The Rural Communities Fuels Management Partnership is also a source of information on ways to protect properties from wildfire. The partnership promotes the FIREWISE concept by participating with booths at local events in Parks, Sherwood Forest Estates and Williams, offering information about defensible space and structure ignitability, as well as the thinning program. They also present programs to homeowners' associations and other groups. RCFMP emphasizes that people need to take action on their property regardless of whether or not they are candidates for the partnership thinning program or other available programs. RCFMP members will conduct assessments of properties so that the owners can proceed on their own. The partnership also provides a place for local residents to dispose of material removed from their property while implementing FIREWISE techniques.



Well thinned and limbed property in the WUI. Source: G. Kleindienst

Even though the CWPP covers primarily the ponderosa pine and Douglas fir zones surrounding Williams, the outlying communities, predominantly in the pinyon juniper and grasslands, are also encouraged to follow firewise recommendations. The recent drought has resulted in heavy mortality, especially in the pinyon pine, and destructive wildfires are possible. All homeowners living in a fire prone environment should consider implementing the firewise defensible space guidelines around their homes and on their property.



WUI hillside with abundance of dead standing PJ. Source: G. Kleindienst

The goal of the CWPP regarding reduction of structure ignitability is to provide various options for consideration by the City and the Fire Districts.

Adoption of the 2003 Uniform Fire Code (UFC) Chapter 17 Wildland Urban Interface or the International Code Council (ICC) Urban-Wildland Interface Code is an option but problematic and costly. Adoption of either the UFC or ICC codes requires simultaneous adoption of companion codes such as the Uniform Building Code. The UFC only applies to commercial and multi-family buildings and does not apply to single-family homes. With adoption of a code series, municipalities and/or fire districts are required to enforce the entire code.

Alternately, adoption of an existing WUI code alone is possible, but current versions of the WUI codes are highly restrictive and generally based upon Southern California fire code standards.

A third option is administrative interpretation of the UFC. An example is the neighboring City of Flagstaff, which currently requires all new developments to submit a fuels management plan or forest stewardship plan through their development and review process. Voluntary compliance is encouraged for new construction of single-family homes. Their authority comes from their interpretation of the 1997 Uniform Fire Code chapter on hazardous vegetation and effectively

deals with defensible space. The City of Flagstaff did not pass a resolution or ordinance and UFC interpretation was accomplished administratively by their fire department and development and review departments.

In October 2004, the Arizona State Senate appointed a State Urban-Wildland Fire Safety Committee. The purpose of the committee is to develop recommended minimum standards in seven areas that will eventually lead to legislation. These State standards and guidelines or Arizona fire code for wildland urban interface protection will then be available for adoption by local counties, municipalities, and fire districts. The seven areas the committee is tasked to review and make recommendations on are:

- Safeguarding life and property from wildfire and fire hazards.
- Preventing wildfires and alleviation of fire hazards.
- Storage, sale, distribution and use of dangerous chemicals, combustibles, flammable liquids, explosives, and radioactive materials in urban wildland interface areas.
- Fire evacuation routes and community alert systems.
- The creation of defensible spaces in and around the urban wildland interface as authorized by existing county and municipal laws and ordinances.
- The application of adaptive management practices in monitoring data from treatment programs to assess the effectiveness of those programs in meeting forest health objectives
- Other matters relating to urban wildfire prevention and control that the Committee considers to be necessary.

If and when these committee recommendations become law, it is likely to be less restrictive than current existing WUI codes and will likely favor private property rights. Current understanding from a committee member is that adoption of an Arizona fire code by the state would be optional for local entities and not required. At that time, agencies can review the state guidelines and choose to adopt them or not. Waiting for this Arizona fire code is a fourth option.

Educating property owners and developers on the benefits of firewise practices and encouraging voluntary compliance has also been highly successful in many areas of the country.

Five options for reducing structure ignitability in the greater Williams area are presented. The City of Williams and the Fire Districts should focus on four items in choosing which option to use in managing the wildland urban interface. These four items are; (1) fire-resistant construction materials, (2) adequate access for fire equipment, (3) adequate water supply, and (4) vegetation management and defensible space. Again, the five options offered for city and fire district consideration are:

- Adopt the 2003 Uniform Fire code and companion codes.
- Adopt a Wildland Urban Interface code.
- Administratively interpret existing UFC codes and develop WUI guidelines.
- Wait for legislation on an Arizona State fire code.
- Encourage voluntary compliance with firewise practices.

As stated in the Guiding Principles, building codes, zoning regulations, defensible space, architectural design, and building materials all contribute to protecting our communities. The City of Williams, Coconino County, and the fire districts are encouraged to research and implement ways to reduce structural ignitability and create defensible space.

# IX. Community Education

Interested members of the public are encouraged to read this CWPP and become involved with agencies in their site-specific project planning efforts. Greater Williams area agencies will continue their public education programs through various means, such as; news releases, public meetings, project scoping, agency web sites, information booths (rodeo, fair, parades, etc.), school programs, homeowner association meetings, WFAC meetings, City Council meetings, and Board of Supervisor meetings. During any of these public contacts, discussion of the benefits of forest restoration and firewise techniques is encouraged. Use of the relative risk rating maps contained in the CWPP may be a good method of opening discussions about community wildfire protection, forest restoration, and needed fuels treatment.

# X. Monitoring

Monitoring in conjunction with adaptive management is essential to ensure that CWPP goals are met. Multi-party monitoring will determine if implemented projects resulted in a significant and measurable reduction of risk to the communities and landscapes within the WUI. The Healthy Forests Restoration Act of 2003 requires the Forest Service (in areas where significant interest is expressed) to establish a multi-party monitoring, evaluation, and accountability process in order to assess the positive or negative ecological and social effects of authorized hazardous fuel reduction projects. Each agency in the greater Williams area currently reports accomplishments annually. The Rural Communities Fuels Management Partnership also reports accomplishment on state and private lands annually. A system will be developed by the member agencies through the RCFMP to collect all annual accomplishments and report to the Williams City Council, Coconino County Board of Supervisors, and the general public on a yearly basis. The RCFMP meets bimonthly to share progress, identify problems and opportunities, and plan work in a collaborative manner so that the work of each organization complements the work of the others to the extent possible.

### XI. Summary

The greater Williams area Community Wildfire Protection Plan is a collaborative effort by all agencies and concerned citizens in the region. The CWPP meets the goals of creating a community base map, defining the wildland urban interface, and analyzing the risks of fuel hazards, fire occurrence, development and other values at risk. The CWPP offers a wide range of fuels treatment options for use on federal, state, and private lands. Concerned citizens, elected and governmental officials that read the CWPP will be better informed on fuel hazards, fuel treatments, and the use of firewise techniques in protecting homes. The CWPP offers options for the City and the Fire Districts to implement firewise development and encourage homeowners to create defensible space on their properties. The CWPP core team agencies along with the

Wildland Fire Advisory Council are committed to strengthening their fire prevention efforts and continuing their mutual assistance during fire suppression emergencies.

Funding and implementation of the CWPP will allow jurisdictional agencies to complete site specific project planning and complete the necessary fuels treatments to reduce the likelihood of a crown fire threatening lives, homes, and our irreplaceable natural resources and ecosystems.

#### XII. References and Literature Citations

Graham, Russell T. 2004. Science Basis for Changing Forest Structure to Modify Wildfire Behavior and Severity (General Technical Report RMRS-GTR-120). USDA Forest Service, Rocky Mountain Research Station.

Guiding Principles for Forest Ecosystem Restoration and Community Protection, 2003. Prepared by the Arizona Forest Health Advisory Council.

Healthy Forests Restoration Act of 2003. United States Congress. Signed into law by President George W. Bush December, 2003.

Preparing a Community Wildfire Protection Plan, 2004. A Handbook for Wildland Urban Interface Communities. Sponsored by: Communities Committee, National Association of Counties, National Association of State Foresters, Society of American Foresters, and Western Governors' Association.

## XIII. Appendices

- 1. Wildland Fire Advisory Council fire equipment listing.
- 2. Specific map information tables.
- 3. Fuels treatment cost estimates.
- 4. Firewise techniques and tips.